

WE CLAIM:

5        1. In a method of producing a fused oxide body by decomposing a precursor compound of the oxide in a flame to form molten oxide particles and collecting those particles in a furnace constructed of a refractory material, to form a fused oxide body, the improvement in the method which comprises treating the refractory material with a strong acid in liquid form to react with, and thereby remove, contaminants from at least the surface of the refractory material.

10      2. The method of claim 1 wherein the improvement comprises treating the refractory material with an acid selected from the group consisting of nitric, hydrochloric and hydrofluoric acids.

15      3. The method of claim 2 wherein the selected acid is hydrofluoric acid.

20      4. The method of claim 1 wherein the improvement comprises treating the refractory material in an acid bath maintained at a temperature in the range of 20-80° C.

25      5. The method of claim 1 which comprises producing a fused silica body.

30      6. The method of claim 1 wherein the refractory material treated is a zircon brick.

25      7. The method of claim 1 which comprises treating the refractory material with an acid in liquid form prior to a carbochlorination treatment.

30      8. The method of claim 1 which comprises treating the refractory material with an acid in liquid form after a carbochlorination treatment.

9. A refractory furnace for collecting fused oxide particles to form a solid oxide body, at least a portion of the furnace being constructed with a refractory brick from which contaminants have been removed by treatment of the brick in an acid bath.

5 10. A refractory furnace in accordance with claim 9 wherein the refractory brick, treated in an acid bath to remove contaminants, is a zircon brick.

11. A refractory furnace in accordance with claim 9 wherein the refractory brick is treated in a hydrofluoric acid bath.

10 12. A refractory furnace in accordance with claim 9 wherein the acid bath is maintained at a temperature in the range of 20-80° C.

13. A refractory furnace in accordance with claim 9 for collecting molten, fused silica particles to form a fused silica body.

14. A refractory furnace in accordance with claim 9 wherein treatment of the brick in an acid bath is preceded by a carbochlorination treatment.

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